

real-time and can be stored in a database for subsequent access by other users. Each user implements the broadcast change requests to the document as they are received so that shared documents are presented to each user in the same way at any given time.

[0011] A more complete understanding of the present invention, as well as further features and advantages of the present invention, will be obtained by reference to the following detailed description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] **FIG. 1** illustrates a relationship between a project and its constituent tasks in the context of the present invention;

[0013] **FIG. 2** illustrates an exemplary record in a project property list which may define properties of the project shown in **FIG. 1**;

[0014] **FIG. 3** illustrates an exemplary record in a task property list which may define properties of a task shown in **FIG. 1**;

[0015] **FIG. 4** illustrates a network environment in which the present invention can operate;

[0016] **FIG. 5** illustrates a configuration of the project management system of **FIG. 4** in an asynchronous collaboration mode;

[0017] **FIG. 6** illustrates a configuration of the project management system of **FIG. 4** in a synchronous collaboration mode;

[0018] **FIG. 7** is a flow chart illustrating an exemplary implementation of a transition process that allows one or more team members to transition between asynchronous and synchronous collaboration modes in accordance with the present invention;

[0019] **FIG. 8** is a flow chart illustrating an exemplary implementation of a task completion process incorporating features of the present invention;

[0020] **FIG. 9** illustrates the operation of the sound board of **FIG. 6** in further detail;

[0021] **FIG. 10** is a flow chart illustrating an exemplary implementation of a conventional token-based document management system;

[0022] **FIG. 11** is a flow chart illustrating an exemplary implementation of a shared document revision process incorporating features of the present invention;

[0023] **FIG. 12** illustrates a document that is modified in accordance with the present invention; and

[0024] **FIGS. 13 through 15** illustrate a number of illustrative applications of the present invention.

DETAILED DESCRIPTION

[0025] As discussed further below in conjunction with **FIG. 2**, a project **100** is defined by a project property list **200** and comprises one or more connected tasks, such as the tasks **150-1**, **150-2**. As used herein, a project **100** is an activity that generates one or more output documents **140** from one or more input documents **110**, and may also produce one or more intermediate documents **120**. A project

100 comprises one or more meetings among one or more team members and documents associated with the project or meetings. The present project management system allows the current version of each document to be shared among each authorized member of a project team.

[0026] As discussed further below in conjunction with **FIG. 3**, each task **150** is defined by a task property list **300** and comprises one or more defined document derivations. A task **150** is defined as a process to derive one or more output documents **140** or one or more intermediate documents **120** from one or more input documents **110** or intermediate documents **120**.

[0027] The input, intermediate and output documents **110**, **120** and **140** may be stored, for example, in an external document database **175**. The external document database **2000** may be embodied as any commercially available document system. Documents that do not yet exist are represented in **FIG. 1** using placeholders **180** that are stored in the document database **175**. A given task **150** is said to be active when all input documents **110** exist and the output documents **140** have not yet been generated. When a task **150** is active, an associated task manager is responsible for generating an output document **140** and to replace the placeholder **180** in the external document database **175** with a real document. Generally, when the output document **140** of the task **150** is generated and stored in the document source database **175**, the next task will become active.

[0028] As previously indicated, a project **100** is defined by a project property list **200**. **FIG. 2** illustrates an exemplary record in a project property list **200** that may define properties of the project **100** shown in **FIG. 1**. In the illustrative embodiment, the project property list **200** includes, for example, a project identifier, a project manager identifier and one or more links to constituent task definitions, to record to the corresponding information associated with the project **100**. The project identifier is the name of the project. The project manager identifier designates the person in charge of executing and completing the project. The links to constituent task definitions point to the appropriate task property lists **300**.

[0029] As previously indicated, a task **150** is defined by a task property list **300**. **FIG. 3** illustrates an exemplary record in a task property list **300** that may define properties of a task **150** shown in **FIG. 1**. In the illustrative embodiment, the task property list **300** includes, for example, a task identifier, a task manager identifier, one or more of input document references, one or more of output document references, an optional access list, an addendum database reference, an optional target completion date, and one or more of optional reviewer identifiers. The task identifier is the name of the task. The task manager identifier designates the person in charge of executing and completing the associated task.

[0030] The input document references refer to the input documents **110** that are used in execution of the task **150**. A task **150** becomes active when all input documents **110** exist. The output document destination refers to a placeholder document **180** or an existing document **110**, **120**. After the task completes, the output document destination should refer to an existing document **140**. The optional access list designates additional individuals who will share responsibility with the task manager for completing the associated task. The task manager and the project manager can add names of